

What is claimed is:

1. A bearing device for a wheel used for rotatably supporting a vehicle wheel relative to a vehicle body, which comprises an outer member having an inner peripheral surface formed with a plurality of rows of rolling surfaces, an inner member formed with rolling surfaces opposed to the rolling surfaces of the outer member, and a plurality of rows of rolling elements interposed between the opposed rolling surfaces, wherein:

either the outer member or the inner member is provided with a sensor for detecting the amount of preload in the bearing is provided on.

2. The bearing device for the wheel as claimed in Claim 1, wherein the sensor for detecting the amount of the preload of the bearing is a piezoelectric element.

3. The bearing device for the wheel as claimed in Claim 1, wherein the sensor for detecting the amount of the preload of the bearing is a strain gauge.

4. The bearing device for the wheel as claimed in Claim 1, wherein the sensor for detecting the amount of the preload of the bearing is a magnetostrictive element.

5. The bearing device for the wheel as claimed in Claim 1, wherein the sensor for detecting the amount of the preload of the bearing comprises a thin film printed directly on a member of one of the outer and inner members.

6. The bearing device for the wheel as claimed in Claim 1, wherein the inner member includes a hub axle and an inner race mounted on an outer periphery of the hub axle, and the inner race is fixed on the hub axle by means of a crimped portion formed by crimping an inboard end of the hub axle and wherein the preload of the bearing may be applied by this crimping to form the crimped portion.

7. The bearing device for the wheel as claimed in Claim 1, which is so assembled as to attain a predetermined preload by utilization of the signal from the sensor.